



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

**77 W. JACKSON BLVD
CHICAGO, IL 60604**

US EPA RECORDS CENTER REGION 5



475626

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Request for Additional Funding and Exemption from the 12-Month Statutory Limit at the Valley Pike VOC Site, Riverside, Montgomery County, Ohio (Site ID # C5U2)

FROM: Steve Renninger, OSC
Emergency Response Branch 1

THRU: Jason H. El-Zein, Chief
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TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this memorandum is to request and document your approval for the United States Environmental Protection Agency (EPA) to expend up to \$1,719,816 to continue a time-critical removal action at the Valley Pike VOC Site (the Site), located in Riverside, Montgomery County, Ohio.

The response actions proposed herein are necessary in order to mitigate the immediate threat to human health and the environment posed by elevated levels of chlorinated volatile organic compounds (VOCs), including tetrachloroethylene (PCE) and trichloroethylene (TCE), which are hazardous substances as defined by CERCLA Section 101(14), in the groundwater, soil vapor, sub-slab gas and indoor air at the Site. Groundwater concentrations of PCE and TCE exceed federal Maximum Contaminant Levels (MCLs) and Site-specific screening levels for soil gas contaminants developed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Ohio Department of Health (ODH). Groundwater, soil gas, sub-slab vapor, and indoor air sample results indicate a direct connection (i.e., a completed exposure pathway) between PCE- and TCE-contaminated groundwater and PCE and TCE sub-slab and indoor air samples at residential properties at levels that ATSDR and ODH consider harmful to human health. This is known as a vapor intrusion completed pathway.

The proposed removal action will continue to address immediate threats to public health, welfare, and the environment posed by the Site through the following actions:

- Conduct extent of contamination sampling utilizing sub-slab and indoor air sampling techniques.
- If the ATSDR/ODH sub-slab or indoor air screening level for a contaminant of concern (e.g., PCE or TCE or breakdown products) is exceeded for a residential structure, design and install a vapor abatement mitigation system in the structure(s) impacted by subsurface gas migration. The abatement system will include installation of a sub-slab vapor abatement system (VAS) or crawl space depressurization system, sealing cracks in walls and floors of the basement, and sealing drains that could be a pathway. The vapor abatement mitigation system will be designed to control levels of VOCs to below ATSDR/ODH sub-slab and indoor air screening levels.

There are no nationally significant or precedent-setting issues associated with the Site. This response action will be conducted in accordance with Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), and 40 C.F.R. § 300.415 (*Removal action*) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) to abate or eliminate the immediate threats posed to public health and/or the environment. The original Site Action Memorandum was approved on October 29, 2013.

The uncontrolled conditions of the hazardous substances present at the Site require that this action be classified as a time-critical removal action. The project will require an additional 75 working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: OHN000510923

Category: Time-Critical Removal Action

At this time, the approximate boundaries of the Site are the Mullins Rubber Products, Inc. (MRP) facility on the east, Prince Albert Boulevard on the west, Forest Home Avenue on the north and Valley Pike on the south. The Site contains a residential neighborhood which has been documented as having vapor intrusion from a PCE- and TCE-contaminated, shallow groundwater plume. The neighborhood is located approximately 900' southwest of the MRP facility.

A. Site Conditions and Background

1. Removal Site Evaluation

a) Site Background – Mullins Rubber Products, Inc.

MRP, an active business, began operations in 1942 as the Mullins Tire and Rubber Company. The primary operation at that time was retreading used tires. In 1955, the business expanded from tires into molding different types of rubber products. Beginning in the mid-1960s, the company focused on molding heavy-duty truck trailer suspension bushings, a product line that continues today.

A main building, several storage sheds, and four production wells are located on the MRP property. The active deep production well formerly produced about 300 gallons per minute for 8 hours a day. Currently, the production well is only used infrequently to "top off" the closed loop system. There are two deep production wells on stand-by. A fourth shallow (50 feet deep) well is damaged and is no longer used but remains in place. All production wells are located on the east side of the MRP facility.

Cooling water from degreasing tanks associated with the manufacturing process previously discharged into a series of five dry wells located on the northern portion of the MRP facility. A dry well is an underground structure that disposes of water by discharging it into the ground where it merges with local groundwater. MRP recently installed a closed loop chiller system which eliminates the need to discharge cooling water to the dry wells. Until the chiller system was operational, the dry wells were used to return the cooling water to the shallow sand and gravel formation. The five dry wells were interconnected and terminated at the man-made depression located at the northeast corner of the MRP property. The dry wells were considered Class V injection wells under the Ohio Underground Injection Control (UIC) Program. Permits were not issued, but the wells were registered with Ohio EPA. The dry wells also received storm water runoff.

b) Site Background – Ohio EPA Site Inspection

In November 2010, Ohio EPA conducted a Site Inspection at MRP (EPA ID# OHN000510489), and determined that the flow of groundwater is to the southwest of the MRP facility. Six groundwater samples were collected using Geoprobe direct-push technology. The active deep production well was sampled, along with dry well number DW-2, which received cooling water from the degreasing tanks.

Sample results indicated significant levels of PCE and lower levels of TCE in three of the samples. PCE was detected at 156 micrograms per liter ($\mu\text{g/L}$) and TCE was detected at 6.18 $\mu\text{g/L}$ in the active production well sample. At that time, water from this production well entered the cooling water system and was discharged to either dry well DW-2 or DW-3. The sample collected from DW-2 also contained PCE and TCE but at lower concentrations than in the production well sample. PCE was detected at 77 $\mu\text{g/L}$ and TCE was detected at 2.2 $\mu\text{g/L}$ in the sample collected from DW-2. PCE and TCE concentrations were also detected in a shallow Geoprobe groundwater sample collected in the southwest corner of the MRP facility. PCE was detected at 58 $\mu\text{g/L}$ and TCE was detected at 11 $\mu\text{g/L}$ at this down-gradient location. In summary, Ohio EPA's sampling activities documented PCE and TCE contamination in the active production well and dry wells at the MRP facility.

c) Site Background – Ohio EPA Expanded Site Inspection

In December 2011, Ohio EPA conducted an Expanded Site Inspection (ESI) at the MRP facility. Three Geoprobe monitoring wells were installed. ESI samples documented PCE and TCE in both shallow and deep aquifers but contamination was highest in MW-3 located at the southwest corner of the MRP facility. PCE was detected at a concentration of 300 $\mu\text{g/L}$ in MW-3. Ohio EPA concluded that higher concentrations of PCE in the shallow aquifer point to a shallow rather than a deep source of PCE.

d) Site Background – Ohio EPA Supplemental Expanded Site Inspection

In March 2013, Ohio EPA conducted a Supplemental Expanded Site Inspection (SESI) at the Site. SESI sampling results showed significant detections of TCE and PCE in the shallow sand and gravel aquifer. The highest concentration of PCE in shallow groundwater was detected at GW-14, approximately 50 feet down gradient (southwest) of the MRP facility. The concentration of PCE was 14,000 µg/L in the laboratory analyzed sample. (Ohio EPA, June 2013) In addition, Ohio EPA observed PCE concentrations ranging from 5 to 14,000 µg/L along the southwestern perimeter (down gradient) of the MRP facility and non-detect to 31 µg/L along the northeastern perimeter (up gradient) of the MRP facility. Based on these groundwater sample results, the Ohio EPA SESI report concluded that the PCE source is east of sample location GW-14.

Additionally, PCE was detected in groundwater at a concentration of 1,500 µg/L at MW-4 in a residential area located 900 feet southwest of the MRP facility. The detection of VOCs in the groundwater underlying this residential area, which is down gradient of the MRP facility, prompted the Ohio EPA to request EPA removal assistance in May 2013 to investigate potential vapor intrusion at the Site.

e) Site Background – Ohio Department of Health

On June 14, 2013, the Health Assessment Section of the Ohio Department of Health (ODH) provided health-based guidance to evaluate the results of vapor intrusion sub-slab and indoor air sampling for contaminants of concern at the Site. ODH identified residential and non-residential sub-slab and indoor air screening and action levels. Table 1 summarizes the PCE and TCE screening and action levels for the Site.

TABLE 1

2013 OHIO DEPARTMENT OF HEALTH SCREENING AND ACTION LEVELS

Chemical of Concern	Residential Screening Level (10⁻⁵)	Non-Residential Screening Level (10⁻⁵)	Residential Action Level (10⁻⁴)	Non-Residential Action Level (10⁻⁴)
Indoor Air				
TCE	0.4	2	4	20
PCE	6	25	60	250
Sub-Slab				
TCE	4	20	40	200
PCE	60	250	600	2,500

Notes:

The screening levels are in parts per billion by volume (ppbv) and based on 10⁻⁵ cancer risk (Hazard Index of 1.0).

The action levels are in ppbv and based on 10^{-4} cancer risk (Hazard Index of 10) and generally used for time critical removal actions

On September 4, 2013, ODH, under a Cooperative Agreement with the Agency for Toxic Substances and Disease Registry (ATSDR), submitted a Letter Health Consultation to EPA. The Health Consultation assessed the data that EPA collected and discussed the public health implications of exposure to VOCs from vapor intrusion from the Site. The Health Consultation provided the following conclusions and recommendations:

2013 Health Consultation Conclusions

1. A completed exposure pathway exists for vapor intrusion, as PCE has been detected as high as 20,000 ppb in the groundwater, 30,000 ppb in the soil gas, 8,200 ppb in the sub-slab soil gas, and 31 ppb in the indoor air at one residence. TCE has been detected as high as 47 ppb in the groundwater, 5,600 ppb in the soil gas, 160 ppb in the sub-slab soil gas, and 0.87 ppb in the indoor air at the same residential property.
2. VOCs in the sub-slab soil gas samples at the four residences sampled (two located on Rondowa Avenue, one on Hypathia Avenue, and one on Bushnell Avenue) located in the neighborhood southwest of the MRP facility were detected at levels that could affect indoor air quality. PCE levels in the sub-slab samples exceeded both screening and action levels.
3. Concentrations of PCE and TCE in the indoor air of one residence tested in July 2013 exceeded screening levels. The estimated total non-cancer hazard quotient is about 7. There is a potential but low cancer risk of 8×10^{-5} (8 in 100,000) for residents exposed over a lifetime.
4. More data is needed to conclude whether the vapor intrusion pathway could affect indoor air quality at other residential properties and harm people's health. At this time, only a few indoor air samples have been collected by EPA.

2013 Health Consultation Recommendations

1. Testing the indoor air of the other homes with high sub-slab results should be a priority. Other residences and businesses at risk of exposure via vapor intrusion pathway should have their sub-slab and indoor air sampled for PCE, TCE, and degradation products cis-1,2-DCE and vinyl chloride. Concurrent outdoor (ambient) air samples should also be collected. Sample collection during multiple seasons, including at least one sample in the winter, is recommended to characterize seasonal variability.
2. The home on Bushnell Avenue should be considered for mitigation to reduce or eliminate ongoing exposures to PCE and TCE in the indoor air.
3. The full extent of the VOC contamination, both in groundwater and soil gas, associated with the Valley Pike VOC site should be determined.

f) Site Background – Ohio EPA Request for Removal Assistance

In a letter dated May 9, 2013, the Ohio EPA expressed concerns about the risk to human health from indoor air exposure to VOCs from a shallow groundwater plume at the Site. Ohio EPA viewed the Site as a potential threat to the residences and businesses located southwest of the MRP facility. Ohio EPA requested assistance from the EPA Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Site. Note that the Ohio EPA referenced this Site as the Mullins Rubber Site during the SESI.

g) Site Background – 2013 EPA Removal Site Investigation

In July and August 2013, EPA conducted a Removal Site Investigation at the Site including groundwater, soil gas and residential sub-slab and indoor air sampling. Ohio EPA's Site Investigation Field Unit (SIFU) provided a Geoprobe unit and installed 16 soil gas probes at 9 locations southwest of the MRP facility. If water was encountered, a groundwater sample was collected at each soil gas probe location.

Groundwater Samples

EPA analyzed four groundwater samples during the investigation. Groundwater samples SG-2-GW, GW-7 and GW-8 were collected from the neighborhood southwest of the MRP facility between Hypathia Ave and Pleasant Valley Ave. Groundwater sample GW-9 was collected adjacent (southwest side) to the MRP facility.

The groundwater sample collected from SG-9 (Sample GW-9, down gradient of MRP) showed the highest PCE concentration at 20,000 µg/L. The groundwater sample collected from SG-8 (Sample GW-8) showed the highest TCE concentration at 47 µg/L. The highest PCE groundwater concentrations observed under the neighborhood southwest of the MRP facility ranged from 240 to 800 µg/L.

Table 2 summarizes the PCE and TCE groundwater sampling results.

TABLE 2

AUGUST 2013 EPA GROUNDWATER SAMPLING SUMMARY

	Sample ID	SG-2-GW Residential Area on Hypathia Avenue (900' from MRP)	GW-7 Residential Area on Pleasant Valley Avenue (1500' from MRP)	GW-8 Residential Area on Pleasant Valley Avenue (1500' from MRP)	GW-9 (50' from MRP facility)
Compound	Sampling Depth	25-ft	23-ft	23-ft	22-ft
PCE		800	240	350	20,000
TCE		24	45	47	ND (100)

Notes:

Groundwater sampling results reported in µg/L

ft – Feet

ID - Identification

ND – Not detected (method detection limit)

PCE – Tetrachloroethylene

TCE – Trichloroethylene

Soil Gas Samples

Ohio EPA SIFU and EPA personnel installed 16 soil gas probes adjacent to MRP and in the neighborhood southwest of the MRP facility. A tedlar bag sample was collected from each soil gas probe depth and analyzed in Ohio EPA's mobile laboratory using a field gas chromatograph. The soil gas tedlar bag sample from each soil gas location which showed the highest PCE concentration was sampled by EPA for commercial laboratory analysis. A total of 9 soil gas samples were collected by EPA and sent for EPA Method TO-15 analysis. Sampling results showed PCE concentrations as high as 30,000 parts per billion by volume (ppbv) and TCE concentrations as high as 5,600 ppbv.

Table 3 summarizes the laboratory soil gas sampling results.

TABLE 3
AUGUST 2013 EPA SOIL GAS SAMPLING SUMMARY

Compound	10 times the Sub-Slab Action Level	Soil Gas Probe Location	SG-1	SG-2	SG-3	SG-4	SG-5	SG-7	SG-8	SG-9	SG-10
		Sampling Depth (feet bgs)	22.5'	22.5'	22.5'	22.5'	11'	20'	20'	19'	20'
PCE	6,000		30,000	900	9,300	1,300	40	3,800	2,000	1,500	12,000
TCE	400		480	73	860	600	1.7	440	330	130	5,600

Notes:

Soil gas sampling results reported in parts per billion by volume

Results bolded and shaded in red are greater than 10 times the 10^{-4} sub-slab action level for residential properties

bgs – below ground surface

PCE – Tetrachloroethylene

TCE – Trichloroethylene

Sub-Slab Samples - Residential

EPA collected sub-slab samples at five residential properties located in the neighborhood southwest of the MRP facility. A summary of the sub-slab air sampling results which exceeded ODH screening levels are as follows:

- EPA observed PCE in sub-slab samples collected from four residential properties at concentrations ranging from 930 to 8,200 ppbv, which exceed the ODH residential sub-slab PCE screening level of 60 ppbv and the ODH residential sub-slab action level of 600 ppbv.
- EPA observed TCE in sub-slab samples collected from three residential properties at concentrations ranging from 60 to 160 ppbv, which exceed the ODH residential sub-slab TCE screening level of 4 ppbv and the ODH residential sub-slab action level of 40 ppbv.

Table 4 summarizes the residential sub-slab sampling results.

TABLE 4

AUGUST 2013 EPA RESIDENTIAL SUB-SLAB SAMPLING SUMMARY

Compound	Sub-Slab Screening Level	Sub-Slab Action Level	Sample ID	2939Valley-SS-070913	2637Rondowa-SS-070913	120Hypathia-SS-070913	2645Rondowa-SS-071013	2634 Bushnell-SS-071013
			Address	2939 Valley Pike	2637 Rondowa Ave	120 Hypathia Ave	2645 Rondowa Ave	2634 Bushnell Ave
			Date Sampled	7-9-13	7-9-13	7-9-13	7-10-13	7-10-13
PCE	60	600		9.3	930	960	1,300	8,200
TCE	4	40		0.79	85	1.8	60	160

Notes:

Results reported in parts per billion by volume.

Results bolded and highlighted red indicate results exceeding both the sub-slab screening (10^{-5} risk level) and action levels (10^{-4} risk level) for residential properties

Indoor Air Samples - Residential

In July and August 2013, EPA collected indoor air samples at six residential properties located in the neighborhood southwest of the MRP facility. A summary of the indoor air sampling results which exceeded ODH screening levels are as follows:

- EPA observed PCE concentrations in indoor air samples collected from 2634 Bushnell Avenue at 32 ppbv and from 120 Hypathia Avenue at 6.9 ppbv, both which exceed the PCE screening level of 6 ppbv.
- EPA observed TCE concentrations in indoor air samples collected from 2634 Bushnell Avenue at 0.87 and 0.92 ppbv; from 120 Hypathia Avenue at 0.44 ppbv; and from 2637 Rondowa Avenue at 0.58 ppbv. All of these sampling results exceed the TCE screening level of 0.4 ppbv.

Table 5 summarizes the residential indoor air sampling results.

TABLE 5

AUGUST 2013 EPA RESIDENTIAL INDOOR AIR SAMPLING SUMMARY

Compound	Indoor Air Screening Level	Indoor Air Action Level	Sample ID	2645Rondowa-IA-071013	2634Bushnell-IA-072413	2634Bushnell-IA-081513	120Hypathia-IA-081513
			Address	2645 Rondowa Ave	2634 Bushnell Ave	2634 Bushnell Ave	120 Hypathia Ave
			Date Sampled	7-10-13	7-24-13	8-15-13	8-15-13
PCE	6	60		2.9	31	32	6.9
TCE	0.4	4		ND (0.34)	0.87	0.92	0.44

TABLE 5 (continued)

AUGUST 2013 EPA RESIDENTIAL INDOOR AIR SAMPLING SUMMARY

Compound	Indoor Air Screening Level	Indoor Air Action Level	Sample ID	2637Rondowa-IA-081513	2624Bushnell-IA-082213	2629Bushnell-IA-082213
			Address	2637 Rondowa Ave	2624 Bushnell Ave	2629 Bushnell Ave
			Date Sampled	8-15-13	8-22-13	8-22-13
PCE	6	60		4.2	0.49	1.0
TCE	0.4	4		0.58	ND (0.34)	ND (0.39)

Notes:

ND = Not detected (reporting limit)

Results reported in parts per billion by volume.

Results bolded and highlighted yellow indicate results exceeding the indoor air screening level

2. Physical Location

As mentioned above, the approximate boundaries of the Site are the MRP facility on the east, Prince Albert Boulevard on the west, Forest Home Avenue on the north and Valley Pike on the south.

MRP is an active manufacturing facility located at 2949 Valley Pike in Riverside, Montgomery County, Ohio (**Figure A-1**). The MRP facility occupies a single parcel (Parcel I39002030048) and comprises approximately 3.675 acres. Most of the parcel is covered with buildings and asphalt or concrete. There is a small grassy area in the front parking area and a vegetative swale across the northern fence line. A single family residential neighborhood begins along Hypathia Avenue, approximately 500 feet west of MRP. The Site includes the area over the PCE- and TCE-contaminated plume flowing southwest of the MRP facility, and is located approximately 1,300 feet north of the Dayton Mad River Well Field wellhead protection area (WHPA). The closest production well is PW-06, approximately 2,650 feet south of the facility in the Mad River Well Field.

An Environmental Justice (EJ) analysis for the Site was conducted. Screening of the surrounding area used Region 5's EJ Screen Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT). Region 5 has reviewed environmental and demographic data for the area surrounding the Site and determined there is a low potential for EJ concerns at this location.

3. Site Characteristics

In July and August 2013, EPA conducted a Removal Site Investigation at the Site, including groundwater, soil gas, sub-slab (SS) and indoor air (IA) sampling.

EPA observed the following:

- Groundwater – PCE concentrations as high as 20,000 µg/L
- Soil Gas – PCE concentrations as high as 30,000 ppbv
- Sub-Slab – PCE concentrations as high as 8,200 ppbv (136 times the SS 10⁻⁵ screening level)
- Indoor Air – PCE concentrations as high as 32 ppbv (5 times the IA 10⁻⁵ screening level)

Groundwater, soil gas, sub-slab and indoor air data collected by EPA documented a completed exposure pathway for vapor intrusion at the Site.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

A release of hazardous substances, pollutants, or contaminants is present due to documented vapor intrusion at the Site. A completed exposure pathway exists for vapor intrusion, as PCE has been documented in the groundwater (PCE as high as 20,000 µg/L), in the soil gas (PCE as high as 30,000 ppbv), in the sub-slab (PCE as high as 8,200 ppbv) and in the indoor air (PCE as high as 32 ppbv) at the Site.

In addition, a second completed exposure pathway exists for vapor intrusion, as TCE has been documented in the groundwater (TCE as high as 47 µg/L), in the soil gas (TCE as high as 5,600 ppbv), in the sub-slab (TCE as high as 160 ppbv) and in the indoor air (TCE as high as 0.92 ppbv) at the Site.

ODH has concluded that there is a vapor intrusion completed exposure pathway at the Site.

5. NPL status

The site is not listed on the CERCLA National Priorities List.

6. Maps, pictures and other graphic representations

Figure A-1 Site Location Map, Figure A-2 Project Summary Map, Figure A-3 Photos are included as attachments.

B. Other Actions to Date

1. Previous actions

Previous actions by EPA and Ohio EPA have been documented in the Background Section (Section II.A.2).

2. Current actions

On December 10, 2013, EPA initiated a time critical removal action at the Site including residential vapor intrusion sampling (sub-slab and indoor air sampling), groundwater sampling,

installation of residential Vapor Abatement Systems (VAS), and 30 day post installation proficiency sampling. The initial area of investigation, based on 2013 groundwater investigation results included the residential area between Hypathia Avenue, Valley Pike, Rohrer Boulevard, and Forest Home Avenue.

In March 2014, EPA installed and sampled 13 additional temporary groundwater sample locations between Rohrer Boulevard and Prince Albert Boulevard, southwest of the initial area of investigation. The March 2014 groundwater sampling was designed to determine the horizontal extent of contamination in the residential neighborhood and identify areas for vapor intrusion sampling. The March 2014 groundwater results indicated PCE and TCE contamination in 4 of the 13 sampled locations; PCE concentrations ranged from 4.3 to 290 ppb and TCE concentrations ranged from 5.7 to 12.4 ppb. Based on the March 2014 groundwater sample results, the residential area of investigation for vapor intrusion sampling was expanded to the southwest in April 2014. The expanded area included an additional six residential blocks between Rohrer Blvd and Prince Albert Blvd. Approximately 310 residences were targeted for sampling in the 2014 EPA vapor intrusion sampling program. Between December 2013 and August 2014, EPA completed vapor intrusion removal activities as summarized below:

- Obtained access agreements from approximately 215 of the 310 property owners in the area of investigation
- Sampled 205 residential properties (sub-slab or indoor air)
- 77 residential properties >ATSDR/ODH screening level
- Completed installation of VAS at 50 of 77 residences to date
- Completed 30 day VAS post installation proficiency sampling at 35 residences to date
- Completed resampling at 7 of 85 residences where baseline sample results revealed detectable levels of PCE or TCE (but lower than ATSDR screening levels). Seasonal resampling is consistent with the Health Consultation recommendation for multi-season sampling.

The following range and frequency of detections were identified by ATSDR following review of the 2013-2014 EPA residential baseline sample results:

- PCE was detected in 88% of residential Sub-Slab sample results. PCE was detected in a range of 0.13-27,300 ppbv in residential Sub-Slab sample results, up to 450 times the ATSDR/ODH screening level.
- PCE was detected in 10% of residential Indoor Air sample results. PCE was detected in a range of 0.13-193 ppbv in residential Indoor Air sample results, up to 32 times the ATSDR/ODH screening level.

- TCE was detected in 60% of residential Sub-Slab sample results. TCE was detected in a range of 0.13-1,120 ppbv in residential Sub-Slab sample results, up to 280 times the ATSDR/ODH screening level.
- TCE was detected in 32% of residential Indoor Air sample results. TCE was detected in a range of 0.13-4.36 ppbv in residential Indoor Air sample results, up to 11 times the ATSDR/ODH screening level.

On December 10, 2013 and July 16, 2014, EPA conducted public meetings at the Site to update the public on the status of the on-going time critical removal action, describe health issues (ATSDR and ODH), and request property owners to sign access agreements for vapor intrusion sampling in the area of investigation.

Installation of the residential VAS included residences with basements, slabs, or crawl spaces. Residential VAS were installed in residences where a baseline sample detected PCE and/or TCE at a concentration above the ATSDR/ODH screening levels. VAS installations are completed by EPA contractors that are ODH certified radon abatement system installers. VAS installation is typically a 1-3 day installation utilizing multiple extraction points to create an overlapping radius of influence below the residence. Vacuum readings are obtained following VAS installation to confirm the radius of influence and 30 day post installation proficiency sampling is conducted to verify air concentrations have been reduced to below ATSDR/ODH screening levels. In approximately 10% of VAS installations, additional extraction points are required following 30 day proficiency sampling results to achieve the ATSDR/ODH screening levels.

In August 2014, ATSDR completed a revised Health Consultation for the Site. The Health Consultation assessed the data that EPA collected in 2014 and discussed the public health implications of exposure to VOCs from vapor intrusion from the Site. The 2014 Health Consultation provided the following conclusions and recommendations:

2014 ATSDR Health Consultation Conclusions

1. A completed exposure pathway exists for the inhalation of indoor air contaminants which are likely entering some area homes via vapor intrusion. PCE has been detected as high as 20,000 ppb in the groundwater, 30,000 ppb in the deep soil gas, 27,300 ppb in the sub-slab soil gas under area homes, and as high as 193 ppb in the indoor air in these homes. TCE has been detected as high as 47 ppb in the groundwater, 5,600 ppb in the soil gas, 1,020 ppb in the sub-slab soil gas, and 4.36 ppb in the indoor air. The detection of PCE and TCE in the sub-slab soil gas under some of the homes to the west of the MRP facility indicates that vapor intrusion is likely occurring. The presence of PCE and TCE in the indoor air of some of these homes confirms there is a completed pathway of exposure linking some area residents to site-related PCE and TCE via the vapor intrusion route.
2. Being exposed to the levels of PCE measured in some homes in the community over the course of a lifetime could harm people's health. PCE concentrations in indoor air detected thus far are below levels where harmful non-cancer health effects are known to occur. However, thirty-two homes had indoor air or crawlspace levels above the ATSDR Cancer Risk Evaluation Guide of 0.57 ppb, and six homes were found to have concentrations of PCE

in the indoor air or crawl space above 57 ppb. The levels of PCE in these six homes exceed an estimated lifetime cancer risk of 1 in 10,000, and are above the U.S. EPA target risk range for lifetime cancer risk. Thus, exposure to PCE in these homes is a public health hazard.

3. Being exposed to the levels of TCE measured in some homes in the community over the course of a lifetime could harm people's health. Furthermore, the concentration of TCE in one of the homes sampled exceeded a concentration linked to the in utero development of heart deformities in babies born to exposed mothers. Potential adverse effects from breathing TCE include immunological effects, fetal heart malformations, kidney toxicity, and an increased risk of developing kidney cancer. The estimated lifetime cancer risk due to exposure to TCE in the indoor air of this home exceeds 1 in 10,000. Thus, exposure to TCE in this home poses a public health hazard.
4. Only about half of the homes potentially impacted by contaminated groundwater have been sampled. Furthermore, many homes have only been sampled one time. Thus, there is a great deal of uncertainty regarding the true magnitude of exposure in the community.

2014 ATSDR Health Consultation Recommendations

1. Determine the full extent of the contaminant threat under the neighborhood by expanding the sub-slab and indoor air sampling in homes west and southwest of the likely source area on Valley Pike. In order to assess the public health implications of sampling results, detection limits below health comparison values are recommended.
2. Sample residences at risk of contamination via the vapor intrusion route.
 - a. To adequately characterize resident exposure to indoor air contaminants from vapor intrusion, concurrently collect indoor air, ambient air, and sub-surface air (sub-slab soil gas or crawlspace) samples if possible.
 - b. To characterize seasonal variability, sample collection during multiple seasons, including at least one sample during the winter months, is recommended.
 - c. Include results for PCE and TCE degradation products cis 1,2-Dichloroethene and Vinyl chloride unless the investigation does not indicate their presence at this site at this time.
3. Mitigate the homes in the vicinity of the Valley Pike VOC plume that exceed health-based comparison values for PCE and TCE in order to reduce or eliminate ongoing exposures to elevated levels of PCE and TCE in the indoor air over the short term.
4. The detection limit for TCE is above ATSDR cancer risk values, its most conservative health based comparison value. Although it is appropriate for U.S. EPA to use detection limits within their regulatory target risk range of a cancer risk between 10⁻⁴ and 10⁻⁶, ATSDR recommends the use of a lower detection limit to better identify the number of homes with increased cancer risk.

5. Identify and mitigate or eliminate the source of the PCE and TCE in the groundwater contaminant plume that currently underlies the community in order to eliminate the threat to area residents over the long term.

C. State and Local Authorities' Roles

In a letter dated May 9, 2013, Ohio EPA requested assistance from the EPA Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Site.

As described above, ODH worked under a Cooperative Agreement with ATSDR in 2013. ODH submitted a Health Consultation to EPA September 4, 2013. Among other things, the Health Consultation concludes that a completed exposure pathway exists for vapor intrusion at the Site.

The City of Riverside Council was briefed of the removal action progress on June 13, 2014. Additionally, City of Riverside Council members attend monthly briefings at the EPA Project Office at the Site. At the July 16, 2014 public meeting, the City of Riverside Mayor requested that residents sign access agreements for EPA vapor intrusion sampling. In August 2014, the City of Riverside distributed letters to residents requesting property owners to sign access agreements for EPA vapor intrusion sampling.

Public Health – Dayton & Montgomery County (PHDMC) representatives interacted with residents in and around the area of investigation to address health-related concerns associated with vapor intrusion. PHDMC met with residents at the Site on a weekly basis through August 2014 to answer any health-related questions.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

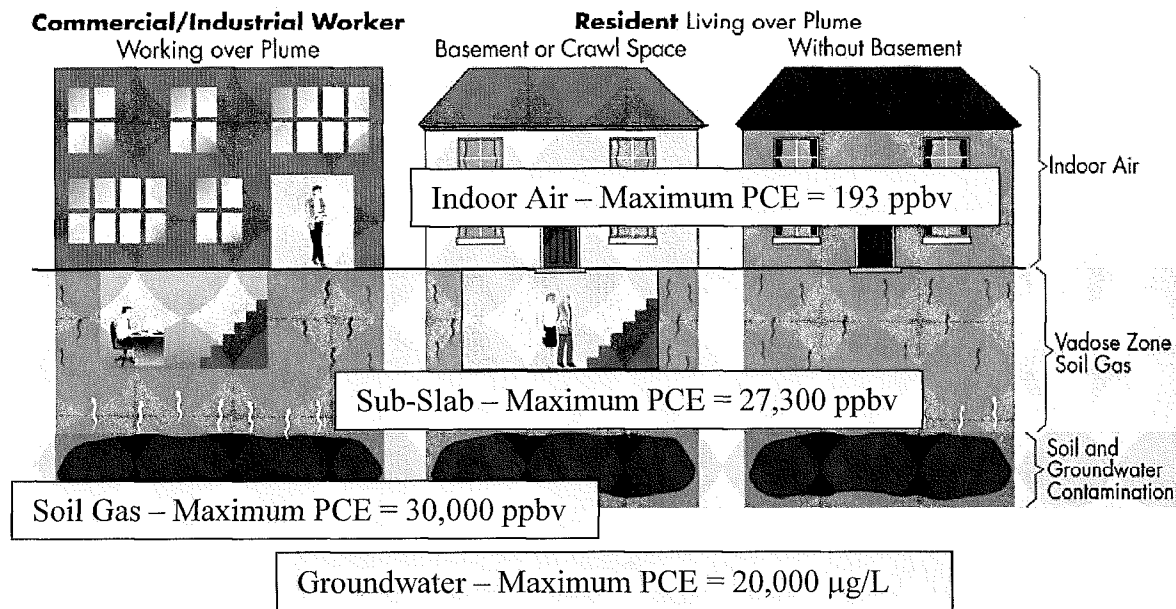
The conditions at the Site present a threat to the public health or welfare, and the environment, and meet the criteria for a time-critical removal action as provided for in the NCP at 40 C.F.R. § 300.415(b)(2). These criteria include, but are not limited to, the following:

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Vapor intrusion occurs when vapors produced by a chemical spill or groundwater contamination plume migrate through soil into the foundations of structures and into the indoor air. When chemicals are released on the ground, they will seep into the soil and make their way into the groundwater. VOCs, including PCE and TCE, produce vapors that travel through soil. These vapors can enter a home or building through cracks in the foundation or into a basement with a dirt floor or concrete slab.

The Valley Pike VOC Site Vapor Intrusion Conceptual Site Model (CSM) illustrating a completed exposure pathway for PCE, is presented below.

Completed Exposure Pathway



There is actual vapor intrusion exposure occurring and there is a potential for additional vapor intrusion to occur at this Site. See Section II.B.2 Current Actions for a detailed discussion of EPA's 2013-2014 residential sampling results and the conclusions of ATSDR's August 2014 Health Consultation for the site.

PCE is a hazardous substance within the meaning of Section 101(14) of CERCLA because it is listed at 40 C.F.R. § 302.4. Historical groundwater sampling, and EPA sub-slab and indoor air sampling results indicate that PCE vapors are migrating into residential structures at levels that ODH considers harmful to human health.

PCE is a man-made liquid chemical that is widely used for dry cleaning clothes and to remove grease from metal parts. It easily evaporates into the air and is a nonflammable, colorless liquid with a sharp, sweet odor. Exposure to PCE at very high concentrations (particularly in closed, poorly ventilated areas) may cause headaches, dizziness, sleepiness, confusion, nausea, poor coordination, and difficulty speaking. According to the ODH, the evidence that PCE is a human carcinogen has been under review by health organizations since 2001. The U.S. Department of Health and Human Services considers PCE to be "reasonably anticipated to be a human carcinogen" based on limited evidence of carcinogenicity from studies of humans and sufficient evidence of carcinogenicity from studies of laboratory animals.

TCE is a hazardous substance within the meaning of Section 101(14) of CERCLA because it is listed at 40 C.F.R. § 302.4. Historical groundwater sampling, and EPA sub-slab and indoor air sampling results indicate that TCE vapors are migrating into residential structures that ODH considers harmful to human health.

TCE is a man-made chemical that is widely used as a cleaner to remove grease from metal parts. TCE is a nonflammable, colorless liquid with a sweet odor. Exposure to TCE at very high concentrations (particularly in closed, poorly ventilated areas) may cause headaches, lung irritation, dizziness, poor coordination, and difficulty speaking. According to the ODH, the evidence that TCE is a human carcinogen has been under review by health organizations since 2001. The U.S. Department of Health and Human Services considers TCE to be "reasonably anticipated to be a human carcinogen" based on limited evidence of carcinogenicity from studies of humans and sufficient evidence of carcinogenicity from studies of laboratory animals. A report recently released by the National Academies of Science National Research Council (2006) has stated that "evidence on cancer and other health risks from TCE exposure has strengthened since 2001," pointing to studies of human populations that support "the conclusion that TCE is a potential cause of kidney cancer." Other ecological studies of communities exposed to TCE in drinking water supplies in Massachusetts, New Jersey, and North Carolina have suggested an association between these exposures and elevated levels of leukemia in the exposed population.

The availability of other appropriate federal or state response mechanisms to respond to the release;

Ohio EPA does not have the resources to respond to this Site. In a letter dated May 9, 2013, Ohio EPA requested assistance from the EPA Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Site.

IV. ENDANGERMENT DETERMINATION

Given the conditions at the Site, the nature of the known and suspected hazardous substances at the Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. EXEMPTIONS FROM STATUTORY LIMITS

Emergency Exemption:

Section 104(c) under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), limits a federal response action to 12 months unless three criteria are met. The conditions present at the Valley Pike VOC Site warrant the 12-month exemption based on the following criteria:

- A. Continued response actions are immediately required to prevent, limit, or mitigate an emergency;

The high concentrations of VOCs in soil gas constitute an imminent threat to human health. PCE was detected in 88% of residential Sub-Slab sample results. PCE was detected in a range of 0.13-27,300 ppbv in residential Sub-Slab sample results, up to 450 times the ATSDR/ODH screening level. Response actions are immediately required to mitigate exposure to nearby residents to hazardous substances through the vapor intrusion pathway. Between December

2013 and August 2014, EPA completed vapor intrusion removal activities as summarized in Section II.B.2 Current Actions of this Action Memorandum.

Continued response actions include completion of residential baseline sub-slab and indoor sampling as property owners sign access agreements, completion of seasonal resampling of residences where PCE or TCE was detected below screening levels, installation of residential VAS in residences where PCE or TCE was identified above screening levels, and completion of 30-day VAS post installation proficiency sampling.

B. There is an immediate risk to public health or welfare or the environment;

Concentrations of hazardous substances in soil gas represent an immediate risk to public health through vapor intrusion. The range and frequency of detections identified by ATSDR following review of the 2013-2014 EPA residential baseline sample results are provided in Section II.B.2 Current Actions of this Action Memorandum. A detailed discussion of ATSDR's August 2014 completed, revised Health Consultation for the Site is also provided in that section of this memorandum. The 2014 Health Consultation concluded that a completed exposure pathway exists for the inhalation of indoor air contaminants which are likely entering some area homes via vapor intrusion. The presence of PCE and TCE in the indoor air of some of these homes confirms there is a completed pathway of exposure linking some area residents to site-related PCE and TCE via the vapor intrusion route.

C. Assistance will not otherwise be provided on a timely basis;

Ohio EPA does not have the resources to respond to this Site. In a letter dated May 9, 2013, Ohio EPA requested assistance from the EPA Removal Branch in evaluating options for addressing current and potential vapor intrusion risks at the Site.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The response actions described in this Action Memorandum directly address actual or potential releases of hazardous substances at the Site, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment. The proposed action will include the following removal activities:

- 1) Develop and implement a Site Health and Safety Plan;
- 2) Conduct vapor intrusion sampling (for VOCs) and extent of contamination sampling utilizing groundwater, soil gas, sub-slab, air modeling, and indoor air sampling techniques. The area of investigation includes the MRP facility on the east, Prince Albert Boulevard on the west, Forest Home Avenue on the north and Valley Pike on the south. This area contains approximately 350 residences.

- 3) If the ATSDR/ODH sub-slab or indoor air screening level for a contaminant of concern (e.g., PCE or TCE) is exceeded for a residential or church structure, design and install a vapor abatement mitigation system in the structure impacted by subsurface gas migration (anticipate up to 100 total residences and 1 church property). The abatement system will include installation of a VAS or crawl space depressurization system, sealing cracks in walls and floors of the basement, and sealing drains that could be a pathway. The vapor abatement mitigation system will be designed to control levels of VOCs to below ATSDR/ODH sub-slab and indoor air screening levels; and
- 4) Develop and implement a performance sample plan to confirm that ATSDR screening levels are achieved for contaminants of concern (PCE, TCE, DCE, and Vinyl Chloride) following installation of a VAS.

The removal action will be conducted in a manner not inconsistent with the NCP. The On-Scene Coordinator (OSC) has initiated planning for provision of post-removal site control consistent with the provisions of Section 300.415(l) of the NCP. Operation and maintenance (O&M) of the vapor abatement systems will be the responsibility of the property owner following installation and performance monitoring by EPA. EPA will require the property owner to sign an O&M agreement prior to installation. The O&M agreement states that the property owner will provide electricity to power the vapor abatement system inline fan. The vapor abatement system inline fan is warranted by the manufacturer for 5 years following installation.

Off-Site Rule

All hazardous substances, pollutants, or contaminants removed off-Site pursuant to this removal action for treatment, storage, and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.

2. Contribution to remedial performance

The proposed action will not impede future actions based on available information. The Site is currently being evaluated for future remedial activities.

3. Engineering Evaluation/Cost Analysis (EE/CA)

Not Applicable

Applicable or relevant and appropriate requirements (ARARs)

All applicable and relevant and appropriate requirements (ARARs) of federal and State law will be complied with to the extent practicable. The OSC submitted a letter dated August 19, 2013, to Scott Glum, Ohio EPA Southwest District Office, requesting state ARARs for the Site. Any state ARARs identified in a timely manner will be complied with to the extent practicable.

Project Schedule

The removal activities are expected to take an additional 75 on-site working days to complete.

Estimated Costs

The detailed cleanup contractor cost is presented in Attachment I and the Independent Government Cost Estimate is presented in Attachment III. Estimated project costs are summarized below:

<u>Regional Removal Allowance Costs</u>	Present Ceiling	This Action	Proposed Ceiling
<u>Extramural Costs:</u> <u>Regional Removal Allowance Costs:</u>			
Total Cleanup ERRS Contractor Costs (Includes a 20% contingency)	\$914,002	\$221,490	\$1,135,492
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>			
Total START	\$110,000	\$240,000	\$350,000
Total ERT	\$0	\$10,000	\$10,000
Subtotal ALL Extramural Costs	\$1,024,002	\$471,490	\$1,495,492
Extramural Costs Contingency (15% of Subtotal, Extramural Costs)	\$153,600	\$70,724	\$224,324
TOTAL REMOVAL ACTION PROJECT CEILING	\$1,177,602	\$542,214	\$1,719,816

The response actions described in this Action Memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the Site which may pose an imminent and substantial endangerment to public health and safety and the environment. These response actions do not impose a burden on affected properties disproportionate to the extent to which the properties contribute to the conditions being addressed.

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Delayed or no action at the Site increases the potential that additional hazardous substances will be released, thereby further endangering, public health, welfare, or the environment.

VIII. OUTSTANDING POLICY ISSUES

None.

IX. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$3,052,585.¹

$$(\$1,719,816 + \$231,840) + (56.41\% \times \$1,951,656) = \$3,052,585$$

X. RECOMMENDATION

This decision document represents the selected removal action for the Valley Pike VOC Site, located in Riverside, Montgomery County, Ohio, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (Attachment II). Conditions at the Site meet the criteria for a removal action set forth at 40 C.F.R. § 300.415(b) and the CERCLA section 104(c) contingency exemption from

¹ Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.

APPROVE

Richard C. Ill
Director, Superfund Division

DATE:

9-16-14

DISAPPROVE

Director, Superfund Division

DATE: _____

Enforcement Addendum

Figures:

- A-1 Site Location Map
- A-2 Project Summary Map
- A-3 Photographic Documentation

Attachments:

- I. Detailed Cleanup Contractor Cost Estimate
- II. Administrative Record Index
- III. Independent Government Cost Estimate

cc:

S. Fielding, EPA 5202G
V. Darby, U.S. Department of Interior, **w/o Enf. Attachment**
(email: Valencia.darby@ios.doi.gov)
Craig W. Butler, Director, OEPA, **w/o Enf. Addendum**
(email: butler.craig@epa.state.oh.us)
Mike DeWine, Ohio Attorney General, **w/o Enf. Addendum**
(email: Mike.DeWine@ohioattorneygeneral.gov)

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**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ENFORCEMENT ADDENDUM

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ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

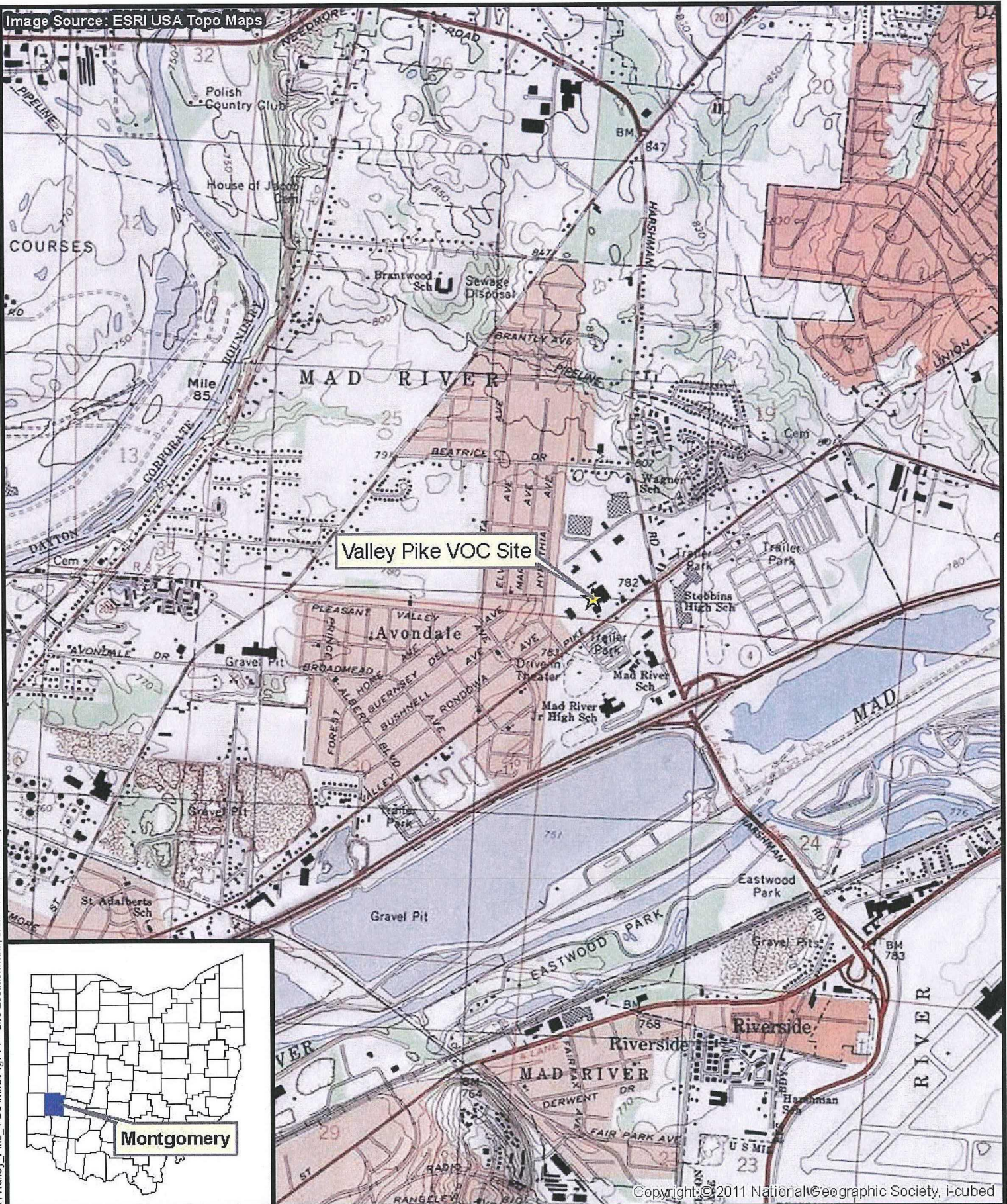
FOIA EXEMPT

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OF REMOVAL ACTION

FIGURE A-1
SITE LOCATION MAP

Image Source: ESRI USA Topo Maps



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Legend

★ Site Location

0 2,000 Feet



Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-0604
TDD: S05-0001-1010-003
DCN: 8888-8X-XXXX

Prepared By:

WESTON
SOLUTIONS

2501 Jolly Road
Suite 100

Okemos, MI 48864

Figure A-1

Site Location Map
Valley Pike VOC

Riverside, Montgomery County, Ohio

FIGURE A-2

EPA PROJECT SUMMARY MAP

FIGURE A-3

PHOTOGRAPHIC DOCUMENTATION

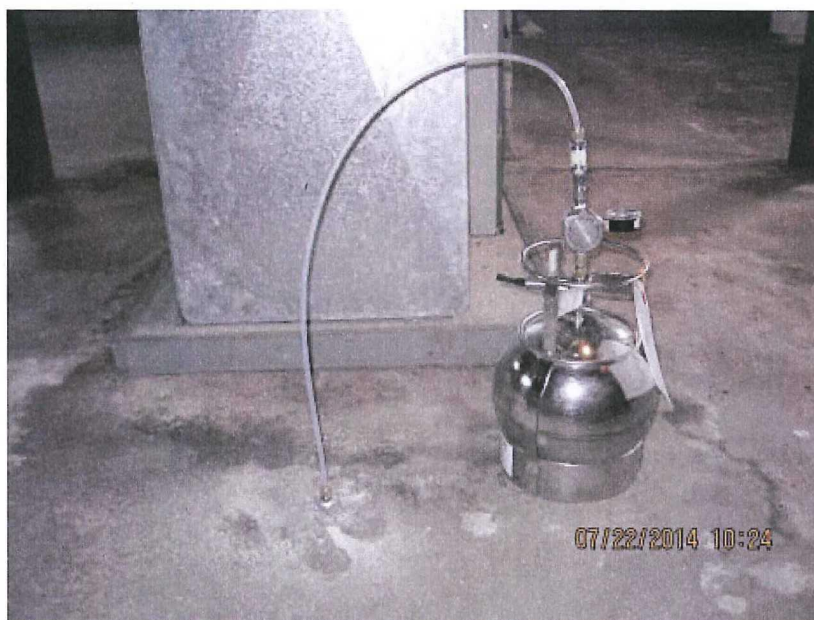


Photo 1: Residential Sub-Slab Sample

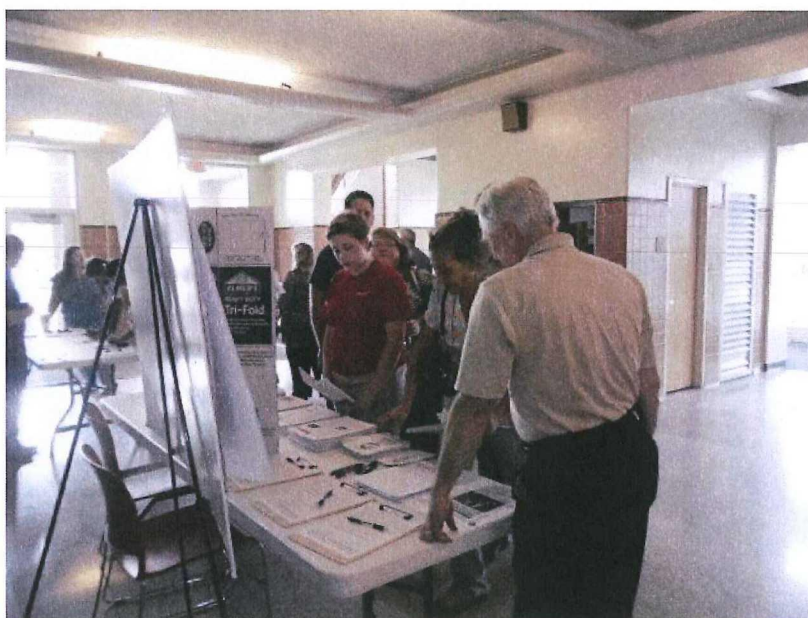


Photo 2: Local Health Department distributing Vapor Intrusion Fact Sheets at July 2014 EPA Public Meeting



Photo 3: Residential crawl space sample



Photo 4: Residential Vapor Abatement System (VAS) exhaust fan and exhaust pipe vented above roofline



Photo 5: Residential Vapor Abatement System exhaust fan on exterior of house

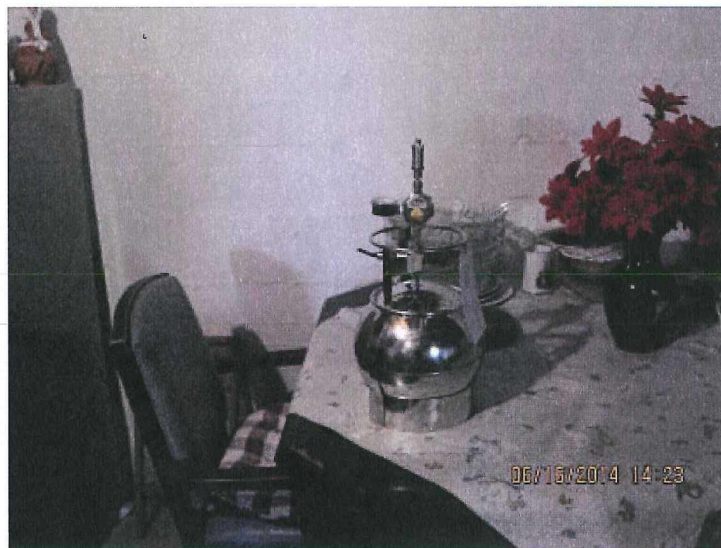


Photo 6: Residential Indoor Air Sample



Photo 7: Residential Vapor Abatement System interior piping showing U-Tube manometer (vacuum gauge) and instruction sheet describing mitigation system



Photo 8: Residential Vapor Abatement System (VAS) exhaust fan and exhaust pipe vented above roofline

ATTACHMENT I

DETAILED CLEANUP CONTRACTOR ESTIMATE

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NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT II
ENVIRONMENTAL PROTECTION AGENCY

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD -
ACTION MEMORANDUM FOR
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO

ORIGINAL
NOVEMBER 4, 2013
SEMS ID: 907456

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	907383	09/00/97	ATSDR	Public	ATSDR Tox Fact Sheet Re: Tetrachloroethylene CAS #127-18-4	2
2	907384	09/00/04	Ohio Department of Health	Public	Fact Sheet Re: Vapor Intrusion: Answers to Frequently Asked Health Questions	2
3	907385	06/25/12	Ohio Department of Health	Public	Fact Sheet Re: Trichloroethylene (TCE): Answers to Frequently Asked Health Questions	2
4	907386	07/25/12	Ohio Department of Health	Public	Fact Sheet Re: Tetrachloroethylene (PCE): Answers to Frequently Asked Health Questions	2
5	907387	02/23/11	Ohio EPA	Public	Site Inspection Report Re: Mullins Rubber Products, Inc.	187
6	907388	02/01/12	Ohio EPA	Public	Expanded Site Inspection (ESI) Report For Mullins Rubber Products, Inc.	523
7	907389	05/09/13	Watterworth, R., Ohio EPA	Durno, M., U.S. EPA	Memorandum Re: Request for Removal Assistance in Evaluating Vapor Intrusion Data and Time-Critical Removal Action at the Valley Pike Voc Site	15

VALLEY PIKE VOC SITE AR INDEX PAGE 2

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
8	907390	06/14/13	Frey, R., Ohio Department of Health	Renninger, S., U.S. EPA	Letter Re: Transmittal of Attached Screening Levels for Contaminants of Concern in Indoor and Sub- Slab Soil Gas for Residential and Non- Residential Properties at the Valley Pike Voc Site	2
9	907418	08/00/13	Ohio EPA	Public	Ohio EPA Supplemental Expanded Inspection Report (SESI) Re: Mullins Rubber Products, Inc.	296
10	907392	08/19/13	Renninger, S., U.S. EPA	Glum, S., Ohio EPA	Letter Re: EPA Request that Ohio EPA Identify any ARARs for the Valley Pike Voc Site	2
11	907419	09/04/13	Frey, R., Ohio Department of Health	Renninger, S., U.S. EPA	Ohio EPA Letter Health Consultation Re: Vapor Intrusion Data Evaluation at Valley Pike Voc Site	13
12	907444	09/24/13	Sherrard, J., Weston Solutions, Inc.	Renninger, S., U.S. EPA	Weston Solutions Site Assessment Report Re: Valley Pike Voc Site	203
13	437444	10/29/13	Renninger, S., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum Re: Request for Approval and Funding for a Time-Critical Removal Action at the Valley Pike Voc Site (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	35

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION**

**ADMINISTRATIVE RECORD
FOR THE
VALLEY PIKE VOC SITE
RIVERSIDE, MONTGOMERY COUNTY, OHIO**

**UPDATE 1
JULY 2014
SEMS ID:**

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	914159	12/1/13	U.S. EPA	Public	Fact Sheet re: U.S. EPA Identifies Neighborhood Pollution Issue	2
2	914158	3/1/2014	Weston Solutions	U.S. EPA	Map - EPA Groundwater Investigation Results	1
3	914160	7/1/14	U.S. EPA	Public	Fact Sheet re: EPA Expands Boundaries Based on Sampling Results	2
4	-	-	Renninger, S., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum re: Request for Additional Funding and Exemption from the 12- Month Statutory Limit at the Valley Pike VOC Site (PENDING)	-

ATTACHMENT 3

INDEPENDENT GOVERNMENT COST ESTIMATE

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NOT RELEVANT TO SELECTION

OF REMOVAL ACTION